

AMENDMENTS TO THE CLAIMS:

The listing of claims will replace all prior versions, and listings of claims in the application:

LISTING OF THE CLAIMS

Please cancel claims 42, 43 and 46 without prejudice to their reintroduction in respective divisional applications.

Please amend claims 24 and 44 as follows.

Please add new claims 47 and 48 as follows.

1-2. (Cancelled)

3. (Previously Presented) A stent as claimed in claim 24 wherein the supporting portion of the stent is fabricated to incorporate a non-planar curved form.

4. (Cancelled)

5. (Previously Presented) A stent as claimed in claim 24 which is of generally hollow tubular shape with three-dimensional curvature.

6. (Previously Presented) A stent as claimed in claim 24 in the form of an open lattice generally tubular framework with discrete openings at each end thereof.

7-11. (Cancelled)

12. (Previously Presented) A stent as claimed in claim 24 in combination with a device which assists in monitoring the condition of the vessel.

13. (Original) A stent as claimed in claim 12 wherein the device is a sensor adapted to transmit a signal responsive to one or more internal flow conditions.

14. (Original) A stent as claimed in claim 13 in which the sensor is ring-shaped and is electrically connected to a remote module incorporating power supply, signal detection and recording means.

15. (Previously Presented) A stent as claimed in claim 13 wherein the sensor is adapted to transmit signals which can be monitored by at least one of ultrasound, magnetic resonance imaging and electron spin resonance imaging techniques.

16. (Previously Presented) A stent as claimed in claim 13 wherein the sensor portion forms an integral part of the stent and the means of excitation and signal detection are entirely extracorporeal.

17-23. (Cancelled)

24. (Currently Amended) A stent for insertion into a vessel, which stent includes a supporting portion around which part of an intact vessel other than a graft can be placed, so that the stent internally supports an interior wall of that vessel part, wherein the supporting portion comprises a hollow tube, the walls of which have openings therein so that when the stent is inserted in a vessel the interior wall of the vessel is exposed via said openings to fluid flow along the vessel, and wherein the supporting portion of the stent, when in the vessel, has a non-planar, at least partially helical shape with an at least partially helical center line, which imposes a non-planar, at least partially helical, curve on the vessel with an at least partially helical center line whereby fluid flow within the stent supported part of the vessel follows the non-planar curve to induce swirl flow.

25. (Previously Presented) A stent according to claim 24 which is adapted to flex three dimensionally but which has sufficient torsional stiffness to induce and maintain in use the non-planar curvature.

26. (Previously Presented) A stent as claimed in claim 24 fabricated from a shape memory alloy.

27. (Previously Presented) A stent as claimed in claim 24 fabricated from a linked mesh or series of linked wire members which is coiled or partly coiled or helical or partly helical.

28. (Previously Presented) A stent as claimed in claim 5 formed from a series of rings in which the material of the stent has the form of a wave in the azimuthal direction with link members extending in the imaginary surface of the tubular stent and joining one ring to another.

29. (Previously Presented) A stent according to claim 28 in which the joints between a link member and each ring linked by the member are separated by more than the least distance between the adjacent rings.

30. (Previously Presented) A stent according to claim 28 wherein the link member has a wavy form part.

31. (Previously Presented) A stent according to claim 28 wherein the link member has a coil form part.

32-43. (Cancelled)

44. (Currently Amended) A stent for insertion into a vessel, comprising:
a pre-shaped flexible supporting portion which supports an interior wall of the vessel and imposes a shape thereon, comprising:

a hollow tube including a wall,

a plurality of openings located in the wall of the tube so that the interior wall of the vessel is exposed, via said openings, to fluid flow along the vessel,
and

wherein the hollow tube is pre-shaped so as to have an at least partially helical in shape, with an at least partially helical center line, so that a swirling

fluid flow is induced within the vessel.

45. (Previously Presented) The stent of claim 44 further comprising a sensor operatively connected to said hollow tube, said sensor being adapted to transmit a signal responsive to one or more internal flow conditions.

46. (Cancelled)

47. (New) A stent for insertion into a blocked, constricted or otherwise flow restricted vessel, comprising:

a hollow tube which supports an interior wall of the vessel;

a plurality of openings located in the wall of the tube so that the interior wall of the vessel is exposed, via said openings, to fluid flow along the vessel; and,

wherein said hollow tube is pre-shaped so as to have an at least partially helical shape, and said hollow tube imposes its at least a partially helical shape on the vessel so that a swirling fluid flow is induced within the vessel.

48. (New) The sent of claim 47 wherein said hollow tube creates a generally uniform distribution of fluid flow wall shear stress within the hollow tube.

49. (New) A stent for insertion into a blocked, constricted or otherwise flow restricted vessel, comprising:

a hollow tube, including a plurality of openings located in a wall thereof, which supports an interior wall of the vessel, wherein the interior wall of the vessel is exposed to fluid flow along the vessel; and,

wherein said hollow tube is pre-shaped so as to have an at least partially helical shape, and said hollow tube imposes its at least partially helical shape on the vessel so that a swirling fluid flow is induced within the vessel.